WIRELESS TELECOMMUNICATIONS BUREAU

FACT SHEET

FEDERAL COMMUNICATIONS COMMISSION
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AUCTIONABLE SPECTRUM FACT SHEET

Spectrum management authority in the United States is shared between the Federal Communications Commission (FCC), an independent regulatory agency, and the National Telecommunications Information Administration (NTIA), an agency within the U.S. Department of Commerce. The Congress has authorized the FCC to regulate the commercial and private use of spectrum by civilian and non-federal government users. NTIA assigns frequencies for federal government use.

As part of the Omnibus Budget Reconciliation Act of 1993, Congress authorized the FCC to use competitive bidding procedures to award certain spectrum licenses. If the FCC determines that licenses for a particular service or class of service are to be used principally to enable subscribers to transmit or receive communications signals in exchange for a fee, those licenses will be subject to competitive bidding. (Radio and television licenses are therefore exempt from competitive bidding procedures.) If multiple applications are filed for a particular license and only one can be granted, they are considered "mutually exclusive" and an auction will be held to determine a winner.

Through a series of auctions, the FCC will be awarding several types of wireless telecommunications service licenses. Listed below are descriptions of some of the communications services that have been or will be subject to competitive bidding:

Personal Communications Services (PCS)

PCS is expected to give the public new communications capabilities by providing a variety of mobile services to compete with existing cellular, paging and other land mobile services. These services will be provided via a new generation of communications devices with two-way voice, data and/or messaging capabilities. The devices include small, lightweight, multi-function wireless phones, portable facsimiles and other imaging devices.

The development of the new PCS industry will benefit consumers by increasing competition in segments of the telecommunications industry, and by introducing competition into other segments for the first time. In addition, the domestic PCS industry is expected to attract tens of billions of dollars of investment capital and create hundreds of thousands of jobs.

Broadband PCS refers to a family of mobile and/or portable radio services that will operate in the 2 GHz band, from 1850 to 1990 MHz. Providers of Broadband PCS have been allocated a total of 120 MHz of spectrum for licensed uses and 20 MHz in the block reserved for unlicensed uses.

Broadband PCS can be used to provide wireless telephony over small, lightweight, multi-function portable telephones, as well as data, advanced paging, and other services which may be integrated with a variety of competing networks. Broadband PCS systems will enable subscribers to communicate with other telephone networks, allowing for the transmission and receipt of data and/or video messages without connection to a wire.

The FCC will auction more than 2,050 Broadband PCS licenses. Additionally, the Commission has granted three "Pioneer's Preference" licenses to companies who have demonstrated pioneering technology in the PCS industry.

Narrowband PCS is a wireless service occupying 3 MHz of spectrum (901-902, 930-931, and 940-941 MHz). Narrowband PCS licenses will be used to provide new services like voice message paging, two-way acknowledgement paging, data messaging, and two-way faxing. Pagers may become equipped with the capability to send a complete message through use of a small keyboard (e.g. a "wireless e-mail").

Narrowband PCS will enable paging companies to expand their current service offerings and increase the level of competition within the industry by creating opportunities for new entrants. The FCC will auction about more than 3,500 Narrowband PCS licenses. The Commission granted one Pioneer's Preference license in Narrowband PCS.

Interactive Video and Data Services (IVDS)

IVDS is a two-way communications system in the 218-219 MHz band. The services can be delivered through broadcast and cable television, wireless cable, and direct broadcast satellite, among other delivery methods.

It is envisioned that IVDS will provide interactive services such as home banking, home shopping, and educational and pay-per-view programming. In order to access these systems, certain wireless or coaxial devices that are similar to cable boxes will be used in conjunction with hand-held remote controls. IVDS licenses also may be used to provide information, products or services to subscribers at fixed locales in the service area, and subscribers will be able to provide responses. These services, however, will not transmit programming signals and they operate independently of existing IVDS technology.

The FCC is auctioning approximately 1,450 IVDS licenses.

Specialized Mobile Radio Services (SMR)

SMR includes dispatch, voice and data services that have various commercial business and specialized uses. The two SMR services which the Commission is considering auctioning are located at 800 MHz and 900 MHz.

800 MHz - The FCC established the SMR service in 1974 as a private land mobile radio service in the 800 MHz band, envisioning that SMR systems would primarily provide radio dispatch communications to eligible customers within local areas. The Commission allocated a total of 14 MHz of spectrum in the 800 MHz band exclusively to SMR systems.

Since 1974, the SMR service has experienced rapid growth and diversification. Although the service consisted primarily of dispatch providers early on, in recent years SMR service has evolved into a diverse industry comprised of systems utilizing advanced technologies to provide an array of services. The types of SMR service offerings currently available range from traditional radio dispatch service for local customers to more sophisticated voice and data transmissions for customers over vast geographic areas.

In recent years, some SMR licensees have been authorized to expand the geographic scope of their services and aggregate large numbers of channels to provide service more directly comparable to cellular and PCS. In May 1993, the FCC first proposed wide-area licensing of the 800 MHz SMR service to provide service more directly comparable to cellular and PCS. In October 1994, the Commission modified its wide-area licensing proposal so that licenses would cover Commission-defined service areas and would be subject to competitive

bidding. The October 1994 proposal also emphasized the need to provide opportunities for entities to operate smaller SMR systems and to provide more local service, and the Commission included measures to accommodate the continued co-existence of these different types of 800 MHz SMR services.

900 MHz - 900 MHz SMR service consists of 5 MHz of spectrum divided into 20 10-channel blocks in each Major Trading Area (MTA). An MTA is a geographic area based on Rand McNally's Commercial Atlas and Marketing Guide. There are 51 MTAs in the United States. 900 MHz channels offer the potential for such competitive services as wireless data, specialized dispatch, two-way paging, and interconnected voice transmission.

Initial licensing of this service was limited to the major metropolitan areas and was suspended for a number of years. The Commission will adopt rules governing the auctioning of remaining 900 MHz licenses in 1995.

220 MHz Service

The 220 MHz service was initiated in 1991 with the Commission's adoption of rules for the licensing of the 220-222 MHz band for the private land mobile services. In 1991, the Commission envisioned that the 220 MHz service would primarily be used for dispatch communications and data communications. The Commission allocated 200 five kilohertz channels pairs, with about 1/3 of the channels pairs designated for nationwide licensing and the remaining channels designated for non-nationwide, or single-station licensing. Approximately 60,000 applications were received for 220 MHz licenses in 1991 and since that time the Commission has issued four nationwide authorizations and approximately 3,800 non-nationwide authorizations.

On July 28, 1995, the Commission proposed rules for the second phase of licensing the 220 MHz service. The Commission proposed that the spectrum be used for both paging and fixed services. Included was a proposal to license spectrum over Commission-defined geographic areas. Specifically, the Commission proposed the licensing of 60 channels in areas defined by the Department of Commerce's Bureau of Economic Analysis' Economic Areas (EAs) and 65 channels in five large geographic regions.

Location and Monitoring Services (LMS)

In 1968, the FCC began licensing Automatic Vehicle Monitoring (AVM) systems, the precursor to LMS, on a developmental basis. In 1974, the Commission adopted "interim" rules for AVM in the 902-928 MHz band. AVM systems fall into two general categories: (1) multilateration systems, used to locate and track vehicles over wide geographic areas, and (2) non-multilateration systems, used to transmit data to and from vehicles passing through a particular location. AVM systems share the 902-928 MHz band with several other licensed services. In addition, the band is open to unlicensed Part 15 use on a secondary basis.

LMS is a new service designation which includes both the Automated Vehicle Monitoring (AVM) service and yet-to-be-introduced advanced radio-based transportation-related services, such as Intelligent Transportation Systems. LMS has the ability to serve large areas and a large number of users. For example, vehicle location and monitoring will be useful for individual motorists and for fleets of vehicles (such as taxis), and for both short and long-range travel.

In February 1995, the FCC established rules for LMS in the 902-928 MHz band. The number of licenses to be auctioned and the auction design to be employed has not yet been determined.

Multipoint Distribution Service (MDS)

MDS is often referred to as "wireless cable." MDS provides video programming to subscribers in the 2.8 GHz band of the spectrum. Wireless cable offers delivery of video programming to subscribers using MDS and/or

Instructional Television Fixed Service (ITFS) channels. MDS resembles cable television, but instead of coaxial cable, wireless cable uses microwave transmission and signals.

Since wireless cable operators package multiple programming services, MDS is a competitor to cable and other multichannel video programming distributors. A wireless cable operator can aggregate a maximum of 33 channels using MDS and ITFS channels in a particular service area.

The Commission is in the process of eliminating a backlog of MDS applications, and has recently streamlined the procedures by which applications for new MDS facilities are filed and processed. New MDS licenses will authorize licensees to operate throughout particular Basic Trading Areas (BTAs). There are 493 BTAs in the U.S. New licensees will be required to avoid interference within the protected area of existing MDS operations (a 35-mile radius). Assuming that mutually exclusive applications are filed for a particular BTA, new licenses will be awarded by competitive bidding before the end of 1995.

For further information, phone (202) 418-1400.